

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An examination apparatus for examining an object of interest, the examination apparatus comprising:

a source of radiation for generating a first radiation penetrating the object of interest;—and

a radiation detector for detecting radiation from at least one of the source and scattered radiation scattered from the object of interest at a scatter angle;

a primary collimator for collimating the first radiation such that the first radiation has a wedge shape and converges at a stationary point of the detector; and

a secondary collimator for absorbing further radiation which is propagating in a direction different from a direction defined by a cone semi angle and the scatter angle;

wherein the detector is stationary during scanning of the object of interest; and wherein the source of radiation is displaceable along a at least a portion of a circular path during the scanning of the object of interest so that the first radiation travels along a surface of the cone of semi angle.

Claim 2 (Canceled)

3. (Previously Presented) The examination apparatus of claim 1, wherein a location of a region within the object of interest from which scatter originates is coded on a coordinate of the detector.

4. (Previously Presented) The examination apparatus of claim 1, wherein the detector is arranged centrally to a rotational axis during scanning of the object of interest and extends along a portion of a further path around the rotational axis; wherein the detector comprises at least one detector element; wherein the at least one detector element is arranged along the portion of the further path; wherein the portion of the further path corresponds

to the path of the source of radiation; wherein the at least one detector element is an energy-resolving detector element; and wherein coordinate of the detector on which a height of a region within the object of interest from which scatter originates is coded is a radial coordinate.

5. (Currently Amended) The examination apparatus of claim 1, further comprising:

~~a primary collimator for collimating the first radiation such that the first radiation has a wedge shape and converges at a stationary point of the detector; a secondary collimator for absorbing further radiation which is propagating in a direction different from the direction defined by a cone semi angle and a scatter angle; and comprising a transmission detector for receiving an attenuated radiation attenuated by the object of interest; wherein the transmission detector is stationary during scanning of the object of interest.~~

6. (Original) The examination apparatus of claim 5, wherein the secondary collimator comprises a plurality of channels formed

by a radiation absorbing material; and wherein each of the channels of the plurality of channels is oriented with respect to the direction defined by the cone semi angle and the scatter angle.

7. (Previously Presented) The examination apparatus of claim 4, wherein the rotational axis is defined by a center of the path and a center of the further path; wherein the rotational axis is perpendicular to a first area encircled by the path and perpendicular to a second area encircled by the further path; wherein the transmission detector is stationary arranged on the rotational axis; wherein the stationary point of the transmission detector at which the radiation converges is located in a detection center of the transmission detector; and wherein a third radiation attenuated by the object of interest is converging at the stationary point while the source of radiation is moving along a portion of the path.

8. (Original) The examination apparatus of claim 1, wherein the examination apparatus is transportable and adapted for baggage inspection; and wherein the source of radiation is a polychromatic

x-ray source.

9. (Previously Presented) The examination apparatus of claim 1, wherein the source of radiation comprises a laser pointer configured to provide an alignment beam to facilitates alignment of the source of radiation toward a desired direction.

10. (Previously Presented) The examination apparatus of claim 1, further comprising a calculation unit for reconstructing an image from readouts of the detector; wherein the examination apparatus is adapted for detection of explosives in the object of interest by using readouts from the detector.

11. (Currently Amended) A method of examining an object of interest with an examination apparatus, the method comprising the acts of:

energizing a source of radiation such that the source of radiation generates a first radiation adapted to penetrate the object of interest;

performing an energy measurement of a second radiation

scattered from the object of interest at a scatter angle by means of a scatter radiation detector with energy resolving detector elements; wherein the scatter radiation detector is stationary during the scanning of the object of interest; ~~and~~

displacing the source of radiation during a scanning of the object of interest along at least a portion of a circular so that the first radiation travels along a surface of a cone of semi angle;

collimating by a primary collimator the first radiation such that the first radiation has a wedge shape and converges at a stationary point of the detector; and

absorbing by a secondary collimator further radiation which is propagating in a direction different from a direction defined by the cone semi angle and a scatter angle.

Claim 12 (Canceled)

13. (Previously Presented) The method of claim 11, further comprising the act of coding a location of a region within the object of interest from which scatter originates on a coordinate of

the scatter radiation detector.

14. (Previously Presented) The method of claim 12, further comprising the act of defining a rotational axis by a center of the first circular path and a center of a second circular path, wherein the scatter radiation detector extends along the second circular path; wherein the rotational axis is perpendicular to a first area encircled by the first circular path and to a second area encircled by the second circular path; wherein the scatter radiation detector is arranged at least at a second portion of the second circular path.

15. (Previously Presented) The method of claim 11, further comprising the acts of:

moving an apparatus comprising the source of radiation and the scatter radiation detector to a location of the object of interest; and

examining the object of interest.

16. (Previously Presented) The method of claim 11, further

comprising the acts of:

activating a laser pointer; wherein a laser beam of the laser pointer is aligned with the first radiation; and

aiming at the scatter radiation detector for aligning scanning.

17. (Currently Amended) Computer program product stored on a computer readable medium, wherein, when the computer program product is executed on an examination apparatus for examination of an object of interest, the examination apparatus performs the following operation:

energizing a source of radiation such that the source of radiation generates a first radiation adapted to penetrate the object of interest;

displacing the source of radiation along at least a portion of a circular during a scanning of the object of interest so that the first radiation travels along a surface of the cone of semi angle;

performing an energy measurement of a second radiation scattered from the object of interest at a scatter angle by means of a scatter radiation detector;



collimating by a primary collimator the first radiation such that the first radiation has a wedge shape and converges at a stationary point of the detector; and

absorbing by a secondary collimator further radiation which is propagating in a direction different from a direction defined by the cone semi angle and the scatter angle; wherein the scatter radiation detector is stationary during the scanning of the object of interest.

18. (Previously Presented) The examination apparatus of claim 1, further comprising a platform configured to move the object of interest, and a calculation unit configured to coordinate movement of the source of radiation and the platform and to construct an image from outputs of the scatter radiation detector.

19. (Previously Presented) The examination apparatus of claim 1, wherein the radiation detector has a shape that matches the path of the source of radiation.

20. (Previously Presented) The method of claim 11, further

comprising the acts of:

moving the object of interest; and

coordinating the displacing act with the moving act to  
construct an image from the energy measurement.

21. (Previously Presented) The computer program product of  
claim 17, executed on the examination apparatus, the examination  
apparatus further performing the acts of:

moving the object of interest; and

coordinating the displacing act with the moving act to  
construct an image from the energy measurement.